

## REISSUE APPLICATION DECLARATION BY THE INVENTOR

Docket Number (Optional)

740819-617

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is described and claimed in patent number 6,117,700 granted September 12, 2000, and for which a reissue patent is sought on the invention entitled METHOD FOR FABRICATING SEMICONDUCTOR DEVICE HAVING GROUP III NITRIDE

the specification of which

is attached hereto.

was filed on \_\_\_\_\_ as reissue application number \_\_\_\_\_ /  
and was amended on \_\_\_\_\_  
(If applicable)

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56  
I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below.  
(Check all boxes that apply.)

by reason of a defective specification or drawing.  
 by reason of the patentee claiming more or less than he had the right to claim in the patent.  
 by reason of other errors.

At least one error upon which reissue is based is described below. If the reissue is a broadening reissue, such must be stated with an explanation as to the nature of the broadening:

The original patent claims less than I had a right to claim due to the fact that specific methods also disclosed in the original patent application were not fully appreciated and, therefore, no claims directed to these methods were presented. In particular, I did not fully appreciate the significant aspect of my invention which discloses a method for fabricating a semiconductor device, comprising the steps of forming a semiconductor layer of a Group III nitride containing a dopant over a substrate, as well as other steps to make the conductivity type of the semiconductor layer p-type. For instance, I did not fully appreciate the significant aspect of my invention which discloses a method of applying RF power on the semiconductor layer. I also did not fully appreciate the significant aspect of my invention which discloses a method comprising the step forming a p-side electrode out of a metal on the semiconductor layer, and applying RF power on the semiconductor layer. In addition, I also did not fully appreciate the significant aspects of my invention which discloses a method comprising the step of charging plasma into the vacuum chamber to form an ambient of plasma while keeping the temperature of the substrate at about 600°C or lower after introducing the substrate into a vacuum chamber. Finally, I further did not fully appreciate the significant aspects of my invention which discloses a method comprising the steps of forming a p-side electrode out of a metal on the semiconductor layer, and after introducing the substrate into a vacuum chamber, charging plasma into the vacuum chamber to form an ambient of plasma while keeping the temperature of the substrate at about 600°C or lower. The issued claims 1-15 of the present patent fail to claim these methods. Therefore, the original patent claimed less than I had a right to claim and have a narrower scope of protection. The above described methods and dependent variations thereof supported in the original patent are now claimed in added claims 16 to 43 of the subject reissue application.

[Page 1 of 2]

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## (REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 2)

Docket Number (Optional)  
740819-617

All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant. As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith.

Name(s)	Registration Number	Name(s)	Registration Number
Daniel W. Sixbey	20,932	Eric J. Robinson	38,285
Stuart J. Friedman	24,312	Marc S. Kaufman	35,212
Charles M. Leedom, Jr.	26,477	Daniel S. Song	43,143
David S. Safran	27,997	James E. Howard	39,175
Thomas W. Cole	28,290	Corinne R. Gorski	34,339
Donald R. Studebaker	32,815	Jason H. Vick	45,285
Jeffrey L. Costella	35,483	Luan C. Do	38,434
Tim L. Brackett, Jr.	36,092		

Correspondence Address: Direct all communications about the application to:

Customer Number

22204



Type Customer Number here

Place Customer Number Bar  
Code Label here

<input type="checkbox"/> Firm or Individual Name			
Address			
Address			
City	State	Zip	
Country			
Telephone	Fax		

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.

Full name of sole or first inventor (given name, family name)

Kenji ORITA

Inventor's signature	Kenji Orita	Date	October 29, 2001
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Residence	Osaka, Japan	Citizenship	Japan
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Mailing Address 1-44-9-C104, Tsunoe-cho, Takatsuki-shi, Osaka 569-0822, Japan

Full name of second joint inventor (given name, family name)

Masahiro ISHIDA

Inventor's signature	Masahiro Ishida	Date	October 29, 2001
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Residence	Osaka, Japan	Citizenship	Japan
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Mailing Address 24-6, Ikaga-nishimachi, Hirakata-shi, Osaka 573-0066, Japan

Full name of third joint inventor (given name, family name)

Shinji NAKAMURA

Inventor's signature	Shinji Nakamura	Date	October 29, 2001
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Residence	Osaka, Japan	Citizenship	Japan
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Mailing Address 1-3-507-403, Nasahara, Takatsuki-shi, Osaka 569-1041, Japan

Additional joint inventors are named on separately numbered sheets attached hereto.

		Docket Number (Optional) 740819-617
REISSUE APPLICATION DECLARATION		ADDITIONAL INVENTOR(S) Supplemental Sheet Page <u>1</u> of <u>1</u>
Full name of fourth joint inventor (given name, family name) Masaaki YURI		
Inventor's signature 		Date October 29, 2001
Residence Osaka, Japan		Citizenship Japan
Mailing Address 6-26-1201, Funaki-cho, Ibaraki-shi, Osaka 567-0828, Japan		
Full name of fifth joint inventor (given name, family name)		
Inventor's signature		Date
Residence		Citizenship
Mailing Address		
Full name of sixth joint inventor (given name, family name)		
Inventor's signature		Date
Residence		Citizenship
Mailing Address		
Full name of seventh joint inventor (given name, family name)		
Inventor's signature		Date
Residence		Citizenship
Mailing Address		
Full name of eighth joint inventor (given name, family name)		
Inventor's signature		Date
Residence		Citizenship
Mailing Address		
Full name of ninth joint inventor (given name, family name)		
Inventor's signature		Date
Residence		Citizenship
Mailing Address		
Full name of tenth joint inventor (given name, family name)		
Inventor's signature		Date
Residence		Citizenship
Mailing Address		

<b>REISSUE APPLICATION BY THE ASSIGNEE, OFFER TO SURRENDER PATENT</b>		Docket Number (Optional) 740819-617
This is part of the application for a reissue patent based on the original patent identified below.		
Name of Patentee(s) Kenji ORITA, Masahiro ISHIDA, Shinji NAKAMURA, and Masaaki YURI		
Patent Number 6,117,700	Date Patent Issued September 12, 2000	
Title of Invention METHOD FOR FABRICATING SEMICONDUCTOR DEVICE HAVING GROUP III NITRIDE		
<u>Matsushita Electric Industrial Co., Ltd.</u> , is the assignee of the entire interest in the original patent.		
I offer to surrender the original patent.		
<input checked="" type="checkbox"/> A certificate under 37 CFR 3.73(b) is attached.		
I am authorized to act on behalf of the assignee.		
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application, any patent issued thereon, or any patent to which this declaration is directed.		
Name of assignee Matsushita Electric Industrial Co., Ltd.		
Signature of person signing for assignee <i>H. Kitagawa</i>	Date October 29, 2001	
Typed or printed name and title of person signing for assignee Hidemasa KITAGAWA General Manager, IP Development Center Authorized Signing Officer		

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**REISSUE APPLICATION: CONSENT OF ASSIGNEE;  
STATEMENT OF NON-ASSIGNMENT**

Docket Number (Optional)

740819-617

This is part of the application for a reissue patent based on the original patent identified below.

## Name of Patentee(s)

Kenji ORITA, Masahiro ISHIDA, Shinji NAKAMURA, and Masaaki YURI

## Patent Number

6,117,700

## Date Patent Issued

September 12, 2000

## Title of Invention

METHOD FOR FABRICATING SEMICONDUCTOR DEVICE  
HAVING GROUP III NITRIDE

1.  Filed herein is a statement under 37 CFR 3.73(b). (Form PTO/SB/96)
2.  Ownership of the patent is in the inventor(s), and no assignment of the patent is in effect.

One of boxes 1 or 2 above must be checked. If multiple assignees, complete this form for each assignee. If box 2 is checked, skip the next entry and go directly to "Name of Assignee".

The written consent of all assignees and inventors owning an undivided interest in the original patent is included in this application for reissue.

The assignee(s) owning an undivided interest in said original patent is/are Matsushita Electric Industrial Co., Ltd., and the assignee(s) consents to the accompanying application for reissue.

## Name of assignee/inventor (if not assigned)

Matsushita Electric Industrial Co., Ltd.

## Signature

## Date

October 29, 2001

## Typed or printed name and title of person for assignee (if assigned)

Hidemasa KITAGAWA

General Manager, IP Development Center, Authorized Signing Officer

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**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Matsushita Electric Industrial Co., Ltd.Application No./Patent No.: 6,117,700 Filed/Issue Date: September 12, 2000Entitled: METHOD FOR FABRICATING SEMICONDUCTOR DEVICE HAVING GROUP III NITRIDEMatsushita Electric Industrial Co., Ltd., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1.  the assignee of the entire right, title, and interest; or
2.  an assignee of less than the entire right, title and interest.

The extent (by, percentage) of its ownership interest is       %

in the patent application/patent identified above by virtue of either:

A. [ ] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel       , Frame       , or for which a copy thereof is attached.

OR

B. [X] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: Kenji Orita, Masahiro Ishida, Shinji Nakamura, and Masaaki Yuri To: Matsushita Electronics Corporation  
The document was recorded in the United States Patent and Trademark Office at Reel 010222, Frame 0748, or for which a copy thereof is attached.
2. From: Matsushita Electronics Corporation To: Matsushita Electric Industrial Co., Ltd.  
The document was recorded in the United States Patent and Trademark Office at Reel       , Frame       , or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel       , Frame       , or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[X] Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Hidemasa KITAGAWA

October 29, 2001

Date

Typed or printed name

H. Kitagawa

Signature

General Manager,  
IP Development Center, Authorized Signing  
Officer

Title

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RECORDATION FORM COVER SHEET  
PATENTS ONLY

To the Honorable Commissioner of Patent and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies): MATSUSHITA ELECTRONICS CORPORATION

Additional name(s) of conveying party(ies) attached?  Yes  No

2. Name and address of receiving party(ies):

Name: MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

Street Address: 1006, Oaza Kadoma, Kadoma-shi

City OSAKA Country: JAPAN ZIP: 571-8501

Additional name(s) & addresses(es) attached?  Yes  No

3. Name of Conveyance:

Assignment  Merger  
 Security Agreement  Change of Name  
 Other \_\_\_\_\_

Execution Date: April 4, 2001

4. Application number(s) or patent number(s): SEE ATTACHED.

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

Title: \_\_\_\_\_

A: Patent Application No.

B. Patent No.(s)

Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: NIXON PEABODY LLP

Street Address: 8180 Greensboro Drive, Suite 800

City: McLean State: Virginia ZIP: 22102

6. Total number of applications and patents involved: 105

7. Total fee (37 CFR 3.41): .....\$ 4200.00

Enclosed (Check Attached)  
 Authorized to be charged to deposit account  
 Authorized to charge any deficiency in the payment of the required fee(s) or credit any overpayment to Deposit Account No. 19-2380.

8. Deposit Account Number: \_\_\_\_\_

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Eric J. Robinson  
Name of Person Signing



Signature

June 7, 2001

Date

Total number of pages comprising cover sheet, attachments and document: 10